Abstract of Disclosure

The invention relates to a safety belt apparatus for vehicles, in particular motor vehicles having at least one safety belt (11), which is wound to a greater or lesser degree onto a belt reel (13) rotatably secured on the vehicle chassis (14) about an axis of rotation (12) and preferably biased by a spring retraction mechanism, in particular a spiral spring (15) in the belt winding up direction and/or having a belt draw out blocking mechanism (26, 38; 55, 56, 57), which, with an attempted rapid draw out of the safety belt (11) and/or with in particular accident dependent accelerations and/or deviations of the vehicle position from the normal, horizontal arrangement of the vehicle blocks a further draw out of the safety belt (11), with a toothed ratchet wheel (29) being rotationally coupled to the belt reel (13) and cooperating with a blocking pawl (17) secured to the housing and movable into an out of engagement, in such a way that with the blocking pawl (17) moved into engagement with the toothed ratchet wheel (29), a rolling up movement of the belt reel (13) by the spring retraction mechanism (15) is possible, but not a pulling out of the safety belt (11), and wherein the blocking pawl (17) is movable into and out of engagement with respect to the toothed ratchet wheel (29) by a cam ring (18) concentric to the belt reel axis (12) via a step down transmission (20, 21, 27, 28) so that the blocking pawl (17) is moved out of engagement with a safety belt (11) which is drawn in to a greater or lesser degree and preferably at least fully drawn in and is movable into engagement with a further drawn out safety belt (11), preferably with a largely fully drawn out safety belt (11), wherein a toothed control wheel (21) is connected to the belt reel (13) via an eccentric transmission (27, 28) and has at its periphery a preferably wave-like arrangement of teeth (40), which is surrounded by an inner toothed

ring (20) fixed to the housing of larger diameter and with complementary teeth (41), but with a smaller or preferably larger number of teeth, such that the toothed control wheel (21) stands in meshing arrangement with the inner toothed ring (20) over a restricted peripheral region and diametrically opposite thereto the two arrangements of teeth (40, 41) have a radial spacing such that the toothed control wheel (21) rolls off on the inner toothed ring (20) on rotation of the belt reel (13), and wherein the total draw out length of the safety belt (11) corresponds to an angle of rotation of the toothed control wheel (21) relative to the axis of rotation (12) of less than 360° and in particular of substantially 180°. The invention lies in the arrangement by which the toothed control wheel (21) is rotationally fixedly connected to the cam ring (18), but radially displaceable in the context of its eccentric movement, with the cam ring (18) having switching means (46, 47) along a first angular region (45) for the engagement and disengagement of the blocking pawl (17), and at least one switching element (49) along a second angular region (48) for at least one further belt draw out dependent switching operation.

- Fig. 2 -